

positional sets and sequentially driving each set of heating elements simultaneously driven over the respective blocks, in a time-divisional manner in a driving order so that non-adjacent heating elements in any block are driven in the next set to avoid cross-talk due to driving adjacent heating elements; and

a recording step of ejecting ink droplets from the nozzles corresponding to the driven heating elements and impacting the ink droplets on the recording medium, thus recording dots made of the ink droplets.

4. (Three Times Amended) A recording head having a plurality of heating elements as driving elements for ejecting ink droplets from a plurality of nozzles, the plurality of heating elements being arranged in a direction substantially perpendicular to the direction of carrying a carried recording medium, the recording head comprising:

time-division driving means for dividing the plurality of heating elements into a plurality of blocks, each block consisting of a predetermined number of spatially and sequentially arranged heating elements of the plurality of heating elements corresponding to the plurality of nozzles, respective ones of the heating elements and the corresponding nozzles in each block positioned similarly to form respective positional sets and sequentially driving each set of heating elements simultaneously driven over the respective blocks, in a time-divisional manner, in a driving order so that non-adjacent heating elements in any block are driven in the next set to avoid cross-talk due to driving adjacent heating elements, consecutive ones of the heating elements being disposed sufficiently adjacent to one another to cause cross-talk therebetween; and

recording means for ejecting ink droplets from the nozzles corresponding to the driven heating elements and impacting the ink droplets on the recording medium, thus recording dots made of the ink droplets.

7. (Twice Amended) An ink jet printer having a recording head having a plurality of heating elements as driving elements for ejecting ink droplets from

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a plurality of nozzles, the plurality of heating elements being arranged in a direction substantially perpendicular to the direction of carrying a carried recording medium, the ink jet printer being adapted for recording information including a character and/or an image in the form of dots made of ink droplets, the ink jet printer comprising:

time-division driving means for dividing the plurality of heating elements into a plurality of blocks, each block consisting of a predetermined number of spatially arranged heating elements of the plurality of heating elements corresponding to the plurality of nozzles, and sequentially driving each set of heating elements simultaneously driven over the respective blocks, in a time-divisional manner, the plurality of blocks arranged in first and second rows extending in a sub scanning direction and spaced apart from one another in a main scanning direction to form a zigzag array with end ones of the nozzles in the blocks in the first row overlapping end ones of the nozzles in the blocks in the second row such that the end of ones of the nozzles in the first row and the end ones of the nozzles in the second row share respective common center lines extending in the main scanning direction; and

recording means for ejecting ink droplets from the nozzles corresponding to the driven heating elements and impacting the ink droplets on the recording medium, thus recording dots made of the ink droplets.

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10. (Twice Amended) A method for driving a recording head having a plurality of heating elements as driving elements for ejecting ink droplets from a plurality of nozzles, the plurality of heating elements being arranged in a direction substantially perpendicular to the direction of carrying a carried recording medium, the method comprising:

a drive signal generating step of generating an element drive signal made of necessary data for forming one dot so as to modulate the diameter of a dot by the number of ink droplets, using one or a plurality of ink droplets for forming one dot;

a time-division driving step of dividing the plurality of heating elements into a plurality of blocks, each block consisting of a predetermined number of spatially

arranged heating elements of the plurality of heating elements corresponding to the plurality of nozzles, and sequentially driving each set of heating elements simultaneously driven over the respective blocks, in a time-divisional manner;

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a correcting unevenness step of correcting unevenness of print density by controlling pulse number moderation by adding or subtracting pulses for ejecting ink droplets in quantities fixed by the respective nozzles to compensate at least in part for desired target quantities of ink droplets to correct unevenness of print density; and

a recording step of ejecting one or a plurality of ink droplets from the nozzles corresponding to the driven heating elements and impacting the ink droplet(s) on the recording medium, thus recording dots made of the ink droplet(s).

19. (Twice Amended) A recording head having a plurality of heating elements as driving elements for ejecting ink droplets from a plurality of nozzles, the plurality of heating elements being arranged in a direction substantially perpendicular to the direction of carrying a carried recording medium, the recording head comprising:

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drive signal generating means for generating an element drive signal made of necessary data for forming one dot so as to modulate the diameter of a dot by the number of ink droplets, using one or a plurality of ink droplets for forming one dot;

time-division driving means for dividing the plurality of heating elements into a plurality of blocks, each block consisting of a predetermined number of spatially arranged heating elements of the plurality of heating elements corresponding to the plurality of nozzles, and sequentially driving each set of heating elements simultaneously driven over the respective blocks, in a time-divisional manner;

distribution means for distributing the ejected ink drops on the carried recording medium using phase-corresponding data with respect to pulse numbers so that at least a first resultant dot having a first size and at least a second result in dot having a second size different from the first size formed thereon are oriented generally centrally about respective imaginary lattice points defining imaginary horizontal and vertical grid lines on the carried recording medium; and

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recording means for ejecting one or a plurality of ink droplets from the nozzles corresponding to the driven heating elements and impacting the ink droplet(s) on the recording medium, thus recording dots made of the ink droplet(s).

28. (Twice Amended) An ink jet printer having a recording head having a plurality of heating elements as driving elements for ejecting ink droplets from a plurality of nozzles, the plurality of heating elements being arranged in a direction substantially perpendicular to the direction of carrying a carried recording medium, the ink jet printer being adapted for recording information including a character and/or an image in the form of dots made of ink droplets, the ink jet printer comprising:

drive signal generating means for generating an element drive signal made of necessary data for forming one dot so as to modulate the diameter of a dot by the number of ink droplets, using one or a plurality of ink droplets for forming one dot;

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time-division driving means for dividing the plurality of heating elements into a plurality of blocks, each block consisting of a predetermined number of spatially arranged heating elements of the plurality of heating elements corresponding to the plurality of nozzles, and sequentially driving each set of heating elements simultaneously driven over the respective blocks, in a time-divisional manner;

correcting means for correcting unevenness of print density by controlling pulse number modulation by adding or subtracting pulses for ejecting ink droplets in quantities fixed by the respective nozzles to compensate at least in part for desired target quantities of ink droplets to correct unevenness of print density; and

recording means of ejecting one or a plurality of ink droplets from the nozzles corresponding to the driven heating elements and impacting the ink droplet(s) on the recording medium, thus recording dots made of the ink droplet(s).

REMARKS

This is a full and timely Preliminary Amendment to the Advisory Action dated May 20, 2003. Reexamination and reconsideration in light of the above amendments